



**[6450-01-P]**

**DEPARTMENT OF ENERGY**

**Office of Energy Efficiency and Renewable Energy**

**[Case No. RF-028]**

**Notice of Petition for Waiver of GE Appliances from the Department of Energy Residential Refrigerator and Refrigerator-Freezer Test Procedure, and Grant of Interim Waiver**

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Notice of petition for waiver, notice of grant of interim waiver, and request for comments.

**SUMMARY:** This notice announces receipt of a petition for waiver and application for interim waiver (hereafter, “petition”) from GE Appliances (GE) regarding specified portions of the U.S. Department of Energy (DOE) test procedure for determining the energy consumption of residential electric refrigerators and refrigerator-freezers. In its petition, GE provides an alternate test procedure. DOE solicits comments, data, and information concerning GE’s petition and the suggested alternate test procedure. Today’s notice also grants GE an interim waiver from the residential electric refrigerator and refrigerator-freezer test procedure, subject to use of the alternative test procedure set forth in this notice.

**DATES:** DOE will accept comments, data, and information with respect to the GE Petition until [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments, identified by case number “RF-028,” by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- E-mail: [AS\\_Waiver\\_Requests@ee.doe.gov](mailto:AS_Waiver_Requests@ee.doe.gov) Include the case number [Case No. RF-028] in the subject line of the message.
- Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J/1000 Independence Avenue, SW, Washington, DC 20585-0121. Telephone: (202) 586-2945. Please submit one signed original paper copy.
- Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L’Enfant Plaza SW, Suite 600, Washington, DC 20024. Please submit one signed original paper copy.

Docket: For access to the docket to review the background documents relevant to this matter, you may visit the U.S. Department of Energy, 950 L’Enfant Plaza SW, Washington, DC, 20024; (202) 586-2945, between 9:00 a.m. and 4:00 p.m., Monday through Friday, except Federal holidays. Available documents include the following items: (1) this notice; (2) public comments received; (3) the petition for waiver and application for interim waiver; and (4) prior DOE

waivers and rulemakings regarding similar refrigerator-freezer products. Please call Ms. Brenda Edwards at the above telephone number for additional information.

**FOR FURTHER INFORMATION CONTACT:** Mr. Bryan Berringer, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-2J, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-0371. E-mail: [Bryan.Berringer@ee.doe.gov](mailto:Bryan.Berringer@ee.doe.gov).

Ms. Elizabeth Kohl, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-71, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0103. Telephone: (202) 586-7796. E-mail: [Elizabeth.Kohl@hq.doe.gov](mailto:Elizabeth.Kohl@hq.doe.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Background and Authority**

Title III, Part B of the Energy Policy and Conservation Act of 1975 (EPCA), Pub. L. 94-163 (42 U.S.C. 6291-6309, as codified), established the Energy Conservation Program for Consumer Products Other Than Automobiles, a program covering most major household appliances, which includes the electric refrigerator-freezers that are the focus of this notice.<sup>1</sup> Part B includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, Part B authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results which measure the energy efficiency, energy use, or estimated annual operating

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<sup>1</sup> For editorial reasons, upon codification in the U.S. Code, Part B was re-designated Part A.

costs of a covered product, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for electric refrigerators and refrigerator-freezers is contained in 10 CFR part 430, subpart B, appendix A1.

The regulations set forth in 10 CFR part 430.27 contain provisions that enable a person to seek a waiver from the test procedure requirements for covered products. The Assistant Secretary for Energy Efficiency and Renewable Energy (the Assistant Secretary) will grant a waiver if it is determined that the basic model for which the petition for waiver was submitted contains one or more design characteristics that prevents testing of the basic model according to the prescribed test procedures, or if the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(l). A petitioner must include in its petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. The Assistant Secretary may grant the waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(l). Waivers remain in effect pursuant to the provisions of 10 CFR 430.27(m).

The waiver process also allows the Assistant Secretary to grant an interim waiver from test procedure requirements to manufacturers that have petitioned DOE for a waiver of such prescribed test procedures. 10 CFR 430.27(g). An interim waiver remains in effect for 180 days or until DOE issues its determination on the petition for waiver, whichever occurs earlier. DOE may extend an interim waiver for an additional 180 days. 10 CFR 430.27(h).

## **II. Petition for Waiver of Test Procedure and Application for Interim Waiver**

On February 15, 2013, GE submitted via electronic mail an undated petition for waiver from the test procedure applicable to residential electric refrigerators and refrigerator-freezers set forth in 10 CFR part 430, subpart B, appendix A1. GE is designing new refrigerator-freezers with separate fresh-food and freezer evaporators and a compressor that cycles in a non-uniform pattern. In its petition, GE seeks a waiver from the test procedure for refrigerator-freezers provided in appendix A1 because that test procedure does not provide a means to measure the energy use of products with multiple defrost cycles. The petition further states that, because of these models' non-uniform compressor cycles, they cannot attain the 0.5 °F temperature differential between compressor cycles that is required in order to identify regular compressor operation using the method specified for the second part of the Appendix A test. Therefore, GE has asked to use an alternate test procedure.

GE also requests an interim waiver from the existing DOE test procedure. An interim waiver may be granted if it is determined that the applicant will experience economic hardship if the application for interim waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination of the petition for waiver. 10 CFR 430.27(g).

DOE has determined that GE's application for interim waiver does not provide sufficient market, equipment price, shipments and other manufacturer impact information to permit DOE

to evaluate the economic hardship GE might experience absent a favorable determination on its application for interim waiver. DOE has determined, however, that it is likely GE's petition will be granted, and that it is desirable for public policy reasons to grant GE relief pending a determination on the petition. DOE has determined that it is desirable to have similar basic models tested in a consistent manner.

For the reasons stated above, DOE grants GE's application for interim waiver from testing of its refrigerator-freezer product line with non-uniform compressor cycling. Therefore, *it is ordered that:*

The application for interim waiver filed by GE is hereby granted for the specified GE refrigerator-freezer basic models with non-uniform compressor cycling, subject to the specifications and conditions below. GE shall be required to test or rate the specified refrigerator-freezer products according to the alternate test procedure as set forth in section III, "Alternate Test Procedure."

The interim waiver applies to the following basic model groups:

CYE23T\*D\*\*\*\*  
PYE23P\*D\*\*\*\*  
PYE23K\*D\*\*\*\*  
PWE23K\*D\*\*\*\*

DOE makes decisions on waivers and interim waivers for only those models specifically set out in the petition, not future models that may be manufactured by the petitioner. GE may submit a subsequent petition for waiver and request for grant of interim waiver, as appropriate,

for additional models of refrigerator-freezers for which it seeks a waiver from the DOE test procedure. In addition, DOE notes that a grant of an interim waiver or waiver does not release a petitioner from the certification requirements set forth at 10 CFR part 429.

Further, this interim waiver is conditioned upon the presumed validity of statements, representations, and documents provided by the petitioner. DOE may revoke or modify this interim waiver at any time upon a determination that the factual basis underlying the petition for waiver is incorrect, or upon a determination that the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics.

### **III. Alternate Test Procedure**

EPCA requires that manufacturers use DOE test procedures to make representations about the energy consumption and energy consumption costs of products covered by the statute. (42 U.S.C. 6293(c)) Consistent representations are important for manufacturers to use in making representations about the energy efficiency of their products and to demonstrate compliance with applicable DOE energy conservation standards. Pursuant to its regulations applicable to waivers and interim waivers from applicable test procedures at 10 CFR 430.27, DOE will consider setting an alternate test procedure for GE in a subsequent Decision and Order.

In its petition, GE states that, because its new refrigerator-freezer models contain a separate fresh food evaporator, tests using the DOE test procedure for refrigerator-freezers at 10 CFR part 430, subpart B, appendix A1 ("Appendix A1") would result in measurements of energy use that are not representative of these models' actual energy use. DOE has previously issued test

procedure waivers for models with this feature, and subsequently incorporated the test method authorized for use through these waivers in Appendix A, which will be required for use beginning on September 15, 2014. 77 FR 3574 (Jan. 25, 2012) While the test method for systems with multiple defrost cycle types in section 4.2.4 of Appendix A appears to be more appropriate for these models than the test procedure of Appendix A1 based upon GE's description, the petition also states that, because of their non-uniform compressor cycles, these models cannot attain the 0.5 °F temperature differential between compressor cycles that is required in order to identify regular compressor operation using the method specified for the second part of the Appendix A test (see section 4.2.1.1 of 10 CFR part 430, subpart B, appendix A).

As an alternative, GE proposes to use a test that is designed specifically for models with separate fresh food and freezer evaporators and with non-uniform compressor cycles. The proposed test would be based upon the current DOE test procedure for refrigerator-freezers in Appendix A1, except that it would use a modified version of the test period specified in section 4 and the energy use calculation for products with long-time or variable defrost control and multiple defrost cycle types in section 5.2.1.5 of Appendix A. As described by GE, Part 2 of the test ( $T_{2i}$  in the formula) would be defined as the series of cycles prior to and following the defrost period, identified as the  $A_{1-j}$  and  $B_{1-k}$  cycles, respectively. These cycles would be used to determine when the 0.5 °F temperature differential has been achieved.

As an example, if the average temperatures for Part 1 of the test are 37.8 °F and 0.2 °F in the fresh food and freezer compartments, respectively, and the temperatures for the Cycle B series of Part 2 of the test (i.e., Cycles  $B_{1-k}$ ), are as follows:



	Fresh Food	Freezer
B1	42.1 °F	4.3 °F
B1-2	40.2 °F	2.1 °F
B1-3	38.0 °F	0.0 °F

then the average temperatures for the Cycle B series are 38.0 °F and 0.0 °F, which are within the 0.5 °F (0.3 °C) requirement. In this example, Part 2 ends after cycle B3.

During the period of the interim waiver granted in this notice, GE shall test the products listed above according to the test procedures for residential electric refrigerator-freezers prescribed by DOE at 10 CFR part 430, subpart B, appendix A1, except that, for the GE products listed above only, include:

1. In section 4, test period, the following:

4. Test Period

\* \* \* \* \*

4.2.1 Long-time Automatic Defrost with Nonuniform Compressor Cycling and Multiple Defrost Cycle Types. The two-part test described in this section shall be used. The first part is a stable period of compressor operation that includes no portions of the defrost cycle, such as precooling or recovery. The second part is designed to capture the energy consumed during all of

the events occurring with the defrost control sequence that are outside of stable operation. The second part of the method will be conducted separately for each distinct defrost cycle type.

4.2.1.1 Measurement Frequency. Measurements shall be taken at intervals not exceeding one minute. Steady state conditions as described in section 2.9 shall be verified using measurements taken at intervals not exceeding one minute.

4.2.1.2 The test period for the first part of the test shall start at the start of a compressor “on” cycle after steady-state conditions have been achieved and be no less than 3 hours in duration. During the test period, the compressor motor shall complete two or more whole compressor cycles. At the end of the test period both compartment temperatures (fresh food and freezer) shall be within 0.5 °F (0.3 °C) of their measurements at the start of the test period. For this comparison, these compartment temperatures shall be measured at the start and end of the test period rather than averaged for the entire test period, but otherwise shall be defined as described in sections 5.1.3 and 5.1.4. If 24 hours pass before the compartment temperatures meet this requirement, the test period shall comprise a whole number of compressor cycles lasting at least 24 hours.

4.2.1.3 The second part of the test starts at the termination of the first part of the test. The average compartment temperatures as defined in sections 5.1.3 and 5.1.4 for a whole number of compressor cycles occurring after the start of the test period and before the time that the defrost heater is energized must both be within 0.5 °F (0.3 °C) of their average temperatures measured for the first part of the test. The test period for the second part of the test ends at the start of a compressor “on” cycle after both compartment temperatures have fully recovered to their stable

conditions after the defrost. The average compartment temperatures as defined in sections 5.1.3 and 5.1.4 for a whole number of compressor cycles occurring after temperature recovery and before the end of the test period must both be within 0.5 °F (0.3 °C) of their average temperatures measured for the first part of the test. See Figure 1.

Figure 1.

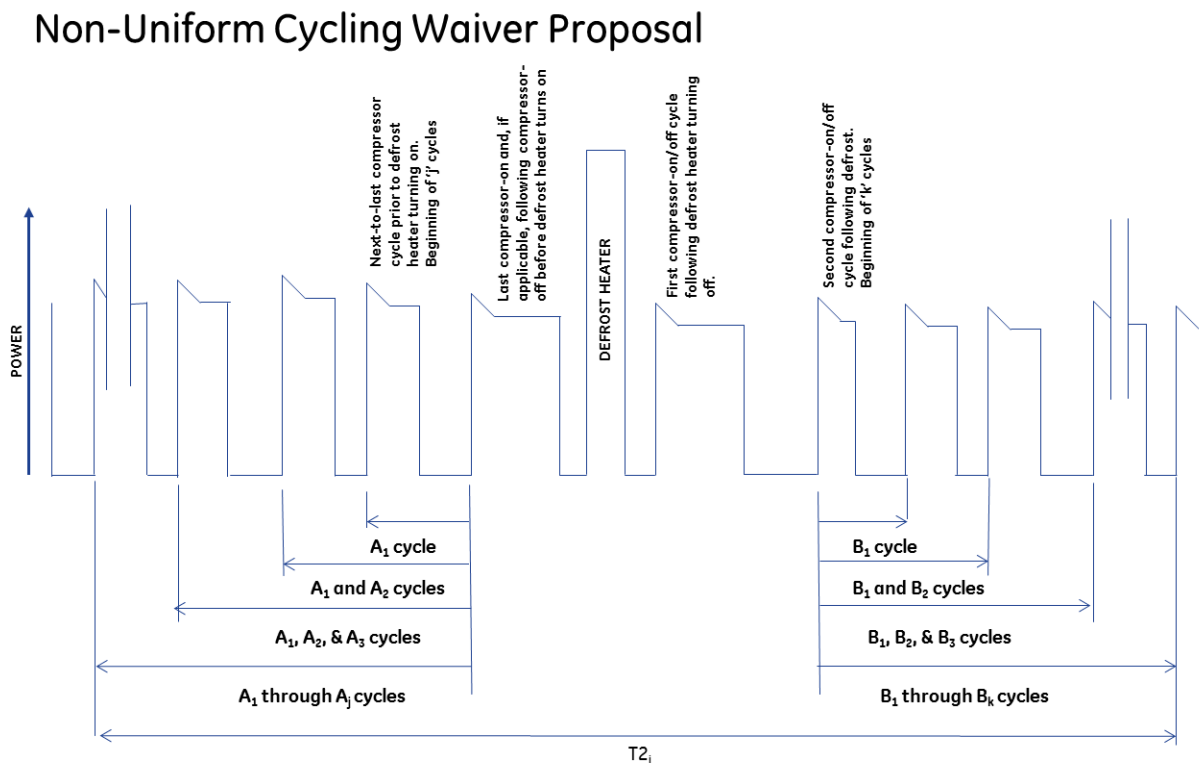


Figure 1 Note: The average temperatures of the compartments for compressor cycles A<sub>1</sub> through A<sub>j</sub> shall be within 0.5 °F (0.3 °C) of their temperature averages for the first part of the test. Likewise, the average temperatures of the compartments for compressor cycles B<sub>1</sub> through B<sub>k</sub> shall be within 0.5 °F (0.3 °C) of their temperature averages for the first part of the test.

2. In section 5, Test Measurements, the following:

5.2.1.5 Long-time or Variable Defrost Control for Systems with Multiple Defrost cycle Types. The energy consumption in kilowatt-hours per day shall be calculated equivalent to:

$$ET = (1440 \times EP1/T1) + \sum_{i=1}^D [(EP2_i - (EP1 \times T2_i/T1)) \times (12/CT_i)]$$

where:

1440 is defined in 5.2.1.1 and EP1, T1, and 12 are defined in 5.2.1.2;

i is a variable that can equal 1, 2, or more that identifies the distinct defrost cycle types

applicable for the refrigerator or refrigerator-freezer;

EP2<sub>i</sub> = energy expended in kilowatt-hours during the second part of the test for defrost cycle type i;

T2<sub>i</sub> = length of time in minutes of the second part of the test for defrost cycle type i;

CT<sub>i</sub> is the compressor run time between instances of defrost cycle type i, for long-time automatic defrost control equal to a fixed time in hours rounded to the nearest tenth of an hour, and for variable defrost control equal to

$(CT_{Li} \times CT_{Mi}) / (F \times (CT_{Mi} - CT_{Li}) + CT_{Li})$ ;

CT<sub>Li</sub> = least or shortest compressor run time between instances of defrost cycle type i in hours rounded to the nearest tenth of an hour (CT<sub>L</sub> for the defrost cycle type with the longest compressor run time between defrosts must be greater than or equal to 6 but less than or equal to 12 hours);

$CT_{Mi}$  = maximum compressor run time between instances of defrost cycle type  $i$  in hours

rounded to the nearest tenth of an hour (greater than  $CT_{Li}$  but not more than 96 hours);

For cases in which there are more than one fixed CT value (for long-time defrost models) or

more than one  $CT_M$  and/or  $CT_L$  value (for variable defrost models) for a given defrost

cycle type, an average fixed CT value or average  $CT_M$  and  $CT_L$  values shall be selected

for this cycle type so that 12 divided by this value or values is the frequency of

occurrence of the defrost cycle type in a 24 hour period, assuming 50% compressor run time.

$F$  = default defrost energy consumption factor, equal to 0.20.

For variable defrost models with no values for  $CT_{Li}$  and  $CT_{Mi}$  in the algorithm, the default values of 6 and 96 shall be used, respectively.

$D$  is the total number of distinct defrost cycle types.

#### **IV. Summary and Request for Comments**

Through today's notice, DOE announces receipt of GE's petition for waiver from certain parts of the test procedure that apply to refrigerator-freezers and grants an interim waiver to GE.

DOE is publishing GE's petition for waiver. The petition contains no confidential information.

The petition includes a suggested alternate test procedure to measure the energy consumption of refrigerator-freezer basic models with non-uniform compressor cycling.

DOE solicits comments from interested parties on all aspects of the petition. Any person submitting written comments to DOE must also send a copy of such comments to the petitioner. 10 CFR 430.27(d). The contact information for the petitioner is: Earl F. Jones, Senior Counsel, GE Appliances, Appliance Park 2-225, Louisville, KY 40225. All submissions received must include the agency name and case number for this proceeding. Submit electronic comments in WordPerfect, Microsoft Word, Portable Document Format (PDF), or text (American Standard Code for Information Interchange (ASCII)) file format and avoid the use of special characters or any form of encryption. Wherever possible, include the electronic signature of the author. DOE does not accept telefacsimiles (faxes).

Issued in Washington, DC, on April 26, 2013.

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Kathleen B. Hogan  
Deputy Assistant Secretary for Energy Efficiency  
Energy Efficiency and Renewable Energy



U.S. Department of Energy

Application for Interim Waiver and Petition for Waiver, 10CFR430, Subpart B, Appendix A1-  
Uniform Test Method for Measuring the Energy Consumption of Refrigerator-freezers

Case No.  
Non-Confidential Version

Submitted by:

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U.S. Department of Energy Application for Interim Waiver and Petition for Waiver, 10CFR430,  
Subpart B, Appendix A1--Uniform Test Method  
for Measuring Refrigerator-Freezers

I. Introduction

GE Appliances, an operating division of General Electric Co., (“GE”) is a leading manufacturer and marketer of household appliances, including, as relevant to this proceeding, refrigerators, files this Petition for Waiver and Application for Interim Waiver (collectively, “Petition”). GE requests that the Assistant Secretary grant it a waiver from certain parts of the test procedure promulgated by the U.S. Department of Energy (“DOE” or “the Department”) for determining refrigerator-freezer energy consumption and allow GE to test its new refrigerator-freezer model pursuant to the modified procedure submitted herewith. This request is filed pursuant to 10 C.F.R. §430.27.

The Department’s regulations provide that the Assistant Secretary will grant a Petition upon “determin[ation] that the basic model for which the waiver was requested contains a design characteristic which either prevents testing of the basic model according to the prescribed test procedures, or the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data.” 10 C.F.R. §430.27(l).

GE requests that the Assistant Secretary grant this Application for Interim Waiver (Application) and Petition for Waiver (Petition) on the grounds that the refrigerator energy test procedure, 10CFR430, Subpart B, Appendix A1, does not allow the energy used by GE’s new refrigerator to be accurately calculated.



## II. Background

GE has designed and plans to market a new refrigerator. The new models, which are listed in Attachment 1, are manufactured in Louisville, KY, will replace products that were previously manufactured in Mexico. They are part of GE's \$1 billion investment in GE Appliances that will revitalize U.S. manufacturing and introduce new energy efficient and market-leading products.

The new refrigerator has at least three compartments, the temperatures of which must be maintained at different levels. Temperature management is achieved by variable-speed fans and a system of dampers that change air flow based on information from temperature sensors placed in the various compartments. An electronic control drives the fans and dampers. The electronic controller also drives compressor operation and a unique three-way valve in the sealed system, which diverts refrigerant to the fresh-food and freezer evaporators. GE has also installed separate heaters on the fresh-food and freezer evaporators. The compressor and tri-valve operations, combined with fan and damper operations and the separate defrost for fresh-food and freezer compartments, enable the new refrigerator to achieve significant improvements in temperature management. As a direct result of the frequent temperature adjustments, the compressor cycles on and off more frequently but in less regular cycles, i.e., it does not cycle in the uniform fashion envisioned by the test procedure.

Hence, this Application and Petition.

## III. GE's Proposed Test Procedure

In order to be assured that it is correctly calculating the energy consumption of the product, that it meets the minimum energy requirements for its product class and is properly labeled, GE seeks the Department's expeditious concurrence to its proposed amendment to the refrigerator test procedure to provide for testing of non-uniform compressor cycling models.

The test procedure in 10 C.F.R. 430, Subpart B, Appendix A1 was developed in the era of electro-mechanical controls when the only refrigerator function--compressor on-off--was based on one input: the temperature of a mix of fresh-food and freezer air. The resulting compressor cycling was so uniform--and the test procedure assumed that to be the case--that regularity of cycles is not even relevant to calculating unit energy consumption. The test procedure identifies a period as typical or representative of the energy used by the product in normal operation. The energy measured during this period is then used to calculate total product energy per a formula provided in the rule. For cycling compressors, the relevant section of the test procedure is found at 4.2.1.1:

Long-time Automatic Defrost. If the model being tested has a long-time automatic defrost system, the test time period may consist of two parts. A first part would be the same as the test for a unit having no defrost provisions (section 4.1.1). The second part would start when a defrost is initiated when the compressor "on" cycle is terminated prior to start of the defrost heater and terminates at the second turn "on" of the compressor or four hours from the initiation of the defrost heater, whichever comes first. See diagram in Figure 1 to this section.

The 2014 test procedure, 10 C.F.R. 430, Subpart B, Appendix A at 4.1.2.1, similarly is predicated upon the existence refrigerator compressors operating with uniform cycles:

[T]he second part starts at the termination of the last regular compressor “on” cycle. The average temperature of the compartment measured from the termination of the previous compressor “on” cycle to the termination of the last regular compressor “on” cycle must be within 0.5 °F (0.3 °C) of the average temperature of the compartment measured for the first part of the test. If any compressor cycles occur prior to the defrost heater being energized that cause the average temperature in the compartment to deviate from the first part temperature by more than 0.5 °F (0.3 °C), these compressor cycles are not considered regular compressor cycles and must be included in the second part of the test. As an example, a “precool” cycle, which is an extended compressor cycle that lowers the compartment temperature prior to energizing the defrost heater, must be included in the second part of the test. The test period for the second part of the test ends at the initiation of the first regular compressor cycle after the compartment temperatures have fully recovered to their stable conditions. The average temperature of the compartment measured from this initiation of the first regular compressor “on” cycle until the initiation of the next regular compressor “on” cycle must be within 0.5 °F (0.3 °C) of the average temperature of the compartment measured for the first part of the test. See Figure 1.

The Figure 1 referred to in this section also makes clear that the compressor cycles are presumed to be uniform.

GE’s new refrigerator contains a separate fresh-food evaporator, which means that the models cannot be tested per the test procedure now in effect found at 10 C.F.R. 430, Subpart B, Appendix A1. Nor can GE use the 2014 test procedure found at 10 C.F.R. 430, Subpart B, Appendix A because it would compare the temperature of one cycle to the temperatures of the many cycles needed for Part 1, i.e. the compartment temperatures of non-uniform compressor cycling models do not attain the required .5° temperature differential from the average temperature “measured for the first part of the test.” (See at 4.2.1.1 ).

GE’s proposed test procedure would allow for the testing of models like the ones listed on Attachment 1 with separate evaporators for the fresh-food compartment that also have non-uniform compressor cycling operations.

Approving this Application and Petition will not require a change in the energy calculation formula:

$$ET = (1440 \times EP1/T1) + \sum_{i=1}^D [(EP2_i - (EP1 \times T2_i/T1)) \times (12/CT_i)]$$

It would, however, define Part 2, or T2<sub>i</sub> in the above formula, as the series of cycles, further defined as A<sub>1-j</sub> Cycles and B<sub>1-k</sub> Cycles, on either side of defrost that would be averaged to determine when the .5° differential had been achieved. The full text of the proposed test procedure amendment to be found in a new section 4.1.2.3 is the following:

#### 4. Test Period

\* \* \* \* \*

4.2.1.3 Non-uniform Cycling Compressor System. For a system with a cycling compressor, the second part of the test starts at the beginning of the “on” cycle of the series of regular compressor cycles, Cycle A<sub>I-j</sub><sup>1</sup> in Figure 1 below. The average temperature of all compartments measured during Cycles A<sub>I-j</sub> must be within 0.5 °F (0.3 °C) of their average temperatures measured for the first part of the test. The test period for the second part of the test ends at the termination of the series of regular compressor cycles, Cycle B<sub>I-k</sub><sup>2</sup> in Figure 1 below, after the average temperatures of all compartments are within 0.5°F (0.3 °C) of their average as measured in the first part of the test.

As an example, if the average temperatures for Part 1 of the test are 37.8 °F and 0.2 °F in the fresh food and freezer compartments, respectively, and the temperatures for the Cycle B series of Part 2 of the test, i.e., Cycles B<sub>I-k</sub>, are as follows,

	Fresh Food	Freezer
B <sub>1</sub>	42.1 °F	4.3 °F
B <sub>1-2</sub>	40.2 °F	2.1 °F
B <sub>1-3</sub>	38.0 °F	0.0 °F

then the average temperatures for the Cycle B series are 38.0 °F and 0.0 °F, which are within the 0.5 °F (0.3 °C) requirement. In this example, Part 2 ends after cycle B<sub>3</sub>.

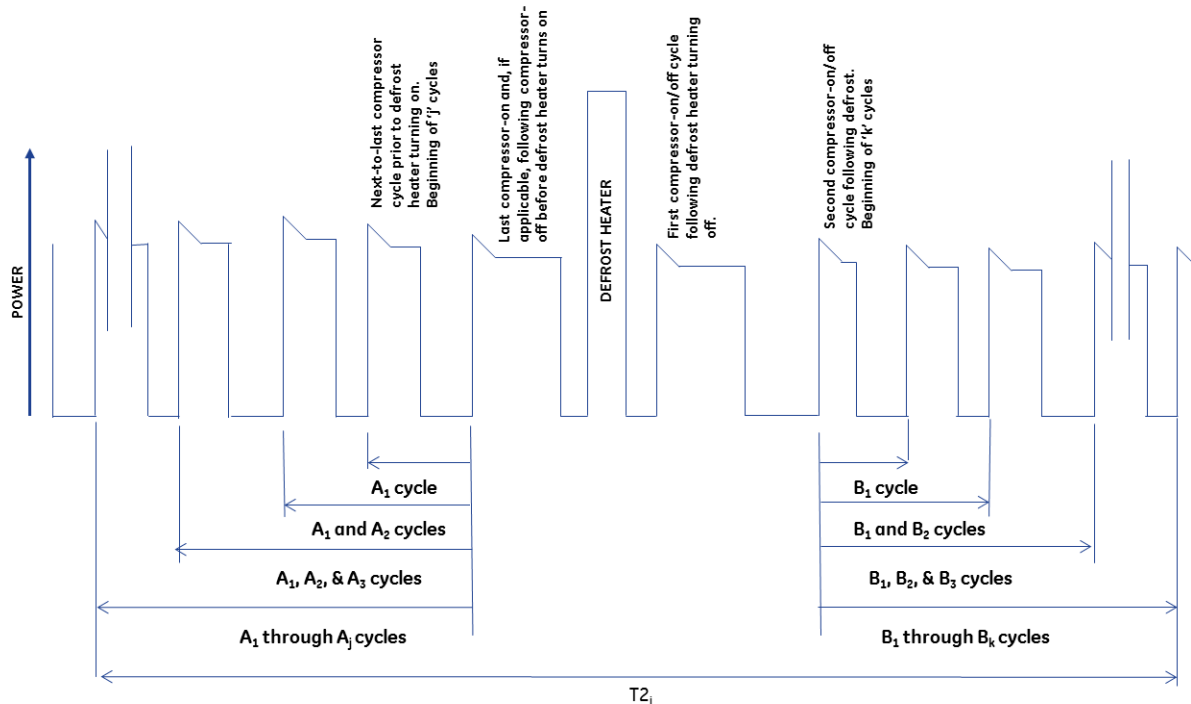
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<sup>1</sup> Subscripts 1-j in Cycle A denote the number of cycles to be averaged to obtain the temperatures of the fresh-food and freezer compartments before defrost.

<sup>2</sup> Subscripts 1-k in Cycle B denote the number of cycles to be averaged to obtain the temperatures of the fresh-food and freezer compartments after defrost.

Figure 3.

## Non-Uniform Cycling Waiver Proposal



### IV. Conclusion

For the above reasons, GE respectfully requests that the Assistant Secretary grant the above Application for Interim Waiver and Petition for Waiver so that the Company can proceed to production of its new electronic-controlled refrigerator models listed on Attachment 1. We requests expedited treatment of the Petition and Application and would be pleased to discuss these requests with DOE and provide further information as needed.

We hereby certify that all manufacturers of domestically marketed units of the same product type have been notified by letter of this Petition and Application, a list of which is found in Attachment 2, hereto.

Respectfully submitted,

Earl F. Jones, Senior Counsel and  
Authorized Representative  
of GE Appliances

ATTACHMENT 1

CYE23T\*D\*\*\*\*

PYE23P\*D\*\*\*\*

PYE23K\*D\*\*\*\*

PWE23K\*D\*\*\*\*

[FR Doc. 2013-10401 Filed 05/01/2013 at 8:45 am; Publication Date: 05/02/2013]